

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-36. (Canceled)

37. (Currently amended) An imaging system for capturing ~~a non-singular~~ an image of a plurality of ~~forms traveling~~ objects randomly positioned on a moving conveyor belt, comprising:

a primary lens assembly for converging a beam of light reflected by a surface of the conveyor belt and by objects randomly positioned on the surface ~~emitted from a surface of a conveyor belt towards a secondary lens assembly~~;

a secondary lens assembly for converging said beam of light from said primary lens assembly ~~towards an image detector~~;

a phase mask ~~positioned between said secondary lens assembly and said image detector~~ for altering said the beam of light converged by the secondary lens assembly such that said the imaging system is insensitive to small distances between objects positioned on said conveyor belt and the primary lens assembly said image detector; and

a beamsplitter ~~disposed between said phase mask and said image detector~~ for splitting said the altered beam of light to a first image detector and to a second image detector disposed at a 90° angle with respect to the first image detector ~~plurality of image detectors~~;

wherein the a first image detector ~~for generating~~ generates an output signal of a first portion of said the conveyor belt surface; and wherein the a second image detector ~~for generating~~ generates an output signal of a second portion of said conveyor belt surface, ~~said second image detector disposed at a 90° angle from said first image detector~~.

38. (Original) The imaging system of claim 37, wherein the phase mask is encoded with a separable point spread function.